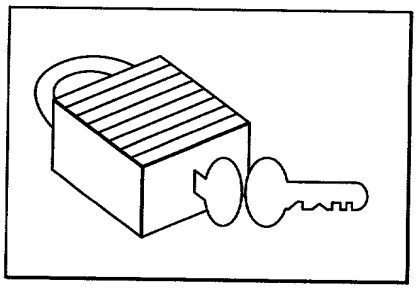

FIG.1A

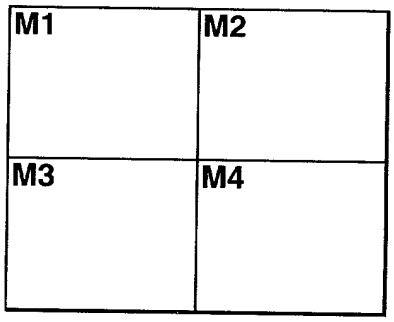

FIG.1B

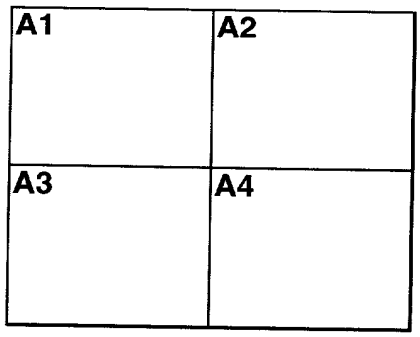

FIG.2A

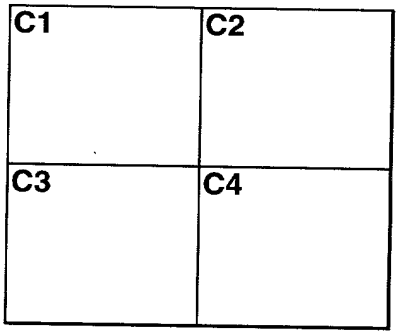

FIG.2B

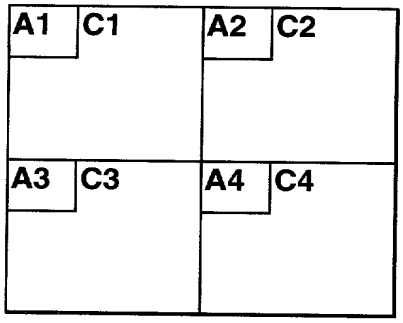

FIG.3A

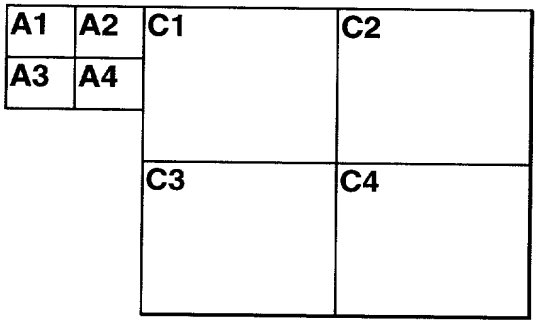

FIG.3B

RECORD1	BIT RECTANGULAR START POINT	BIT RECTANGULAR SIZE	ACCESS PRIVILEGE	KEY LENGTH	CIPHERING KEY
RECORD2	BIT RECTANGULAR START POINT	BIT RECTANGULAR SIZE	ACCESS PRIVILEGE	KEY LENGTH	CIPHERING KEY
RECORD3	BIT RECTANGULAR START POINT	BIT RECTANGULAR SIZE	ACCESS PRIVILEGE	KEY LENGTH	CIPHERING KEY
RECORD4	BIT RECTANGULAR START POINT	BIT RECTANGULAR SIZE	ACCESS PRIVILEGE	KEY LENGTH	CIPHERING KEY

...

FIG.4

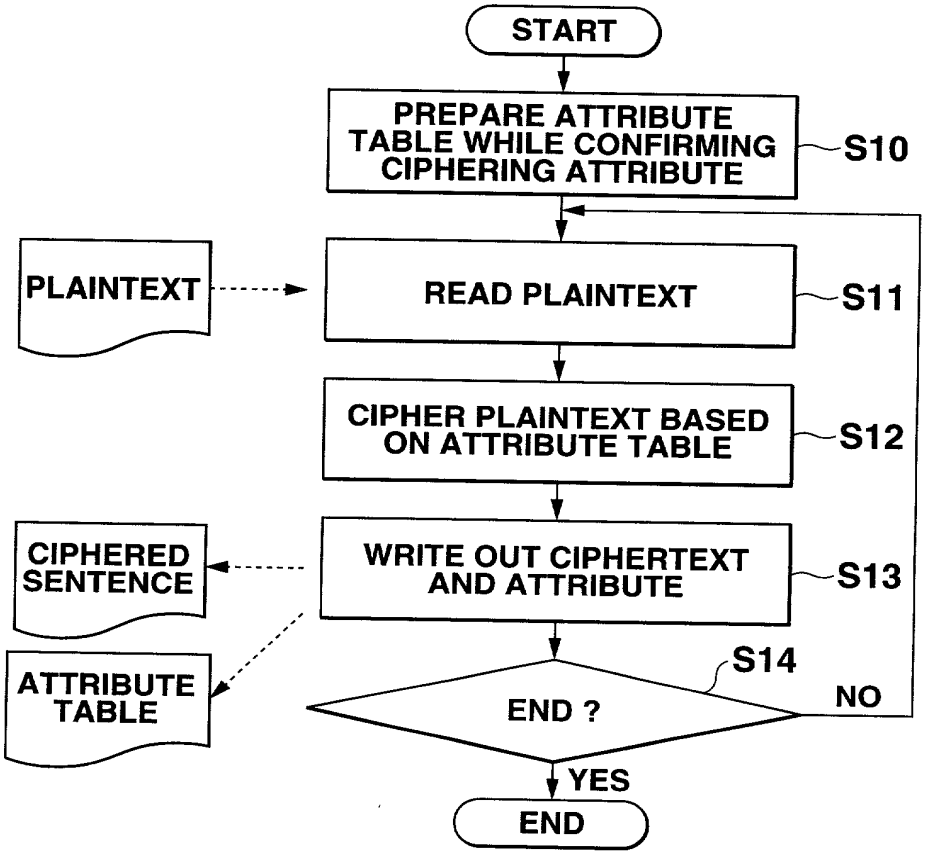
START
PREPARE ATTRIBUTE TABLE WHILE CONFIRMING CIPHERING ATTRIBUTE
S10
PLAINTEXT
READ PLAINTEXT
S11
CIPHER PLAINTEXT BASED ON ATTRIBUTE TABLE
S12
CIPHERED SENTENCE
WRITE OUT CIPHERTEXT AND ATTRIBUTE
S13
ATTRIBUTE TABLE
S14
END ?
NO
YES
END

FIG.5

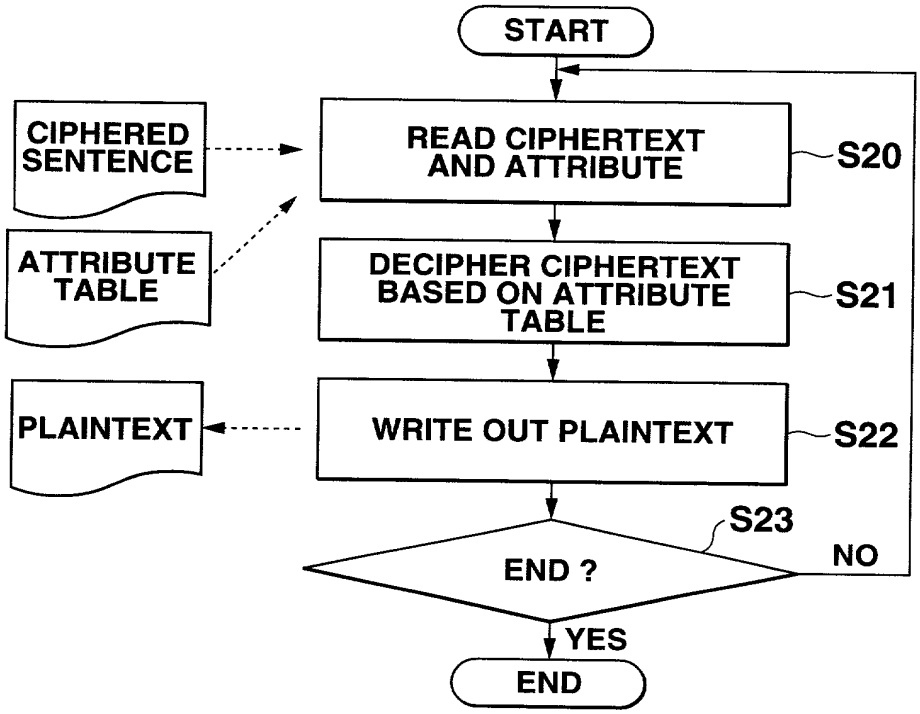
START
CIPHERED SENTENCE
READ CIPHERTEXT AND ATTRIBUTE
S20
ATTRIBUTE TABLE
DECIPHER CIPHERTEXT BASED ON ATTRIBUTE TABLE
S21
PLAINTEXT
WRITE OUT PLAINTEXT
S22
S23
END ?
NO
YES
END

FIG.6

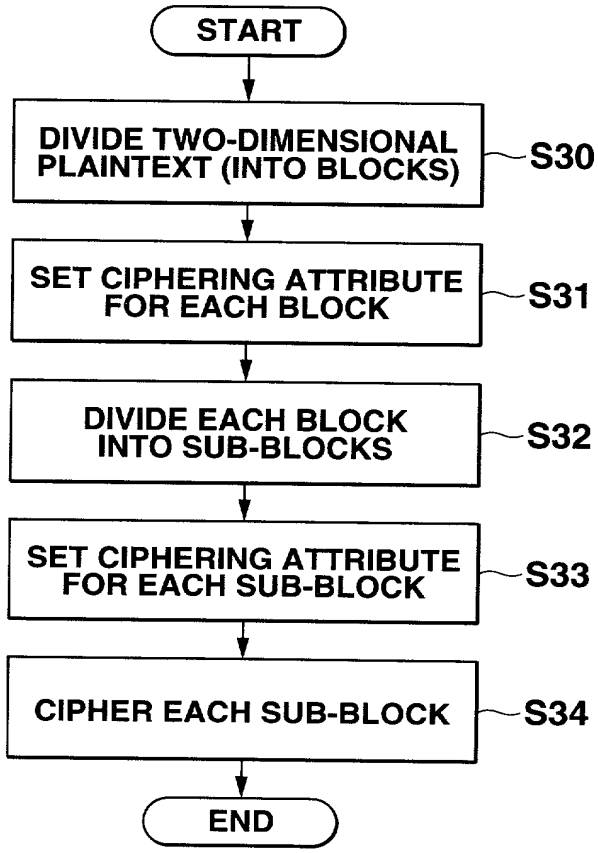
START
DIVIDE TWO-DIMENSIONAL PLAINTEXT (INTO BLOCKS)
S30
SET CIPHERING ATTRIBUTE FOR EACH BLOCK
S31
DIVIDE EACH BLOCK INTO SUB-BLOCKS
S32
SET CIPHERING ATTRIBUTE FOR EACH SUB-BLOCK
S33
CIPHER EACH SUB-BLOCK
S34
END

FIG.7

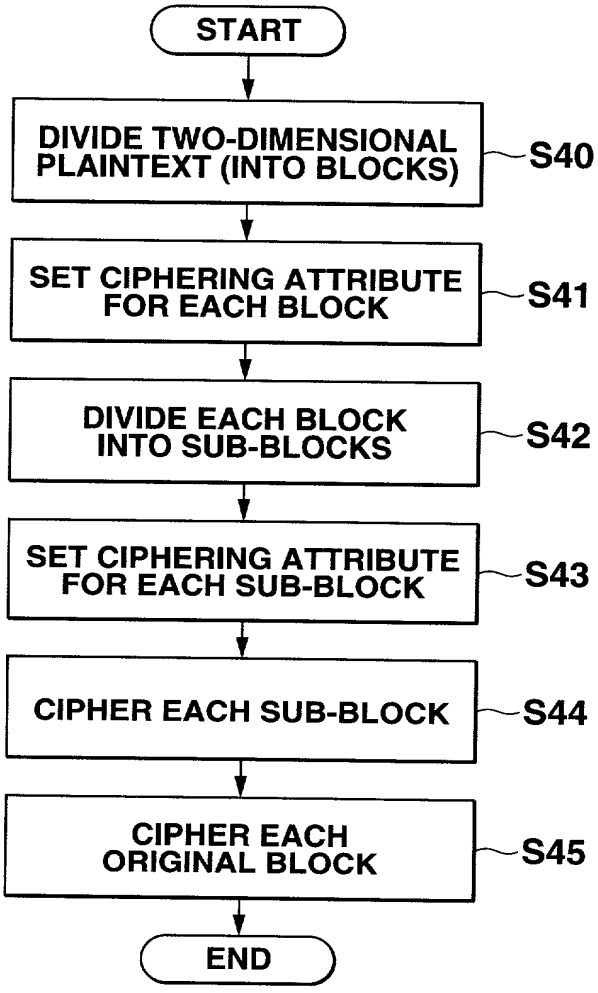
START
DIVIDE TWO-DIMENSIONAL PLAINTEXT (INTO BLOCKS)
S40
SET CIPHERING ATTRIBUTE FOR EACH BLOCK
S41
DIVIDE EACH BLOCK INTO SUB-BLOCKS
S42
SET CIPHERING ATTRIBUTE FOR EACH SUB-BLOCK
S43
CIPHER EACH SUB-BLOCK
S44
CIPHER EACH ORIGINAL BLOCK
S45
END

FIG.8

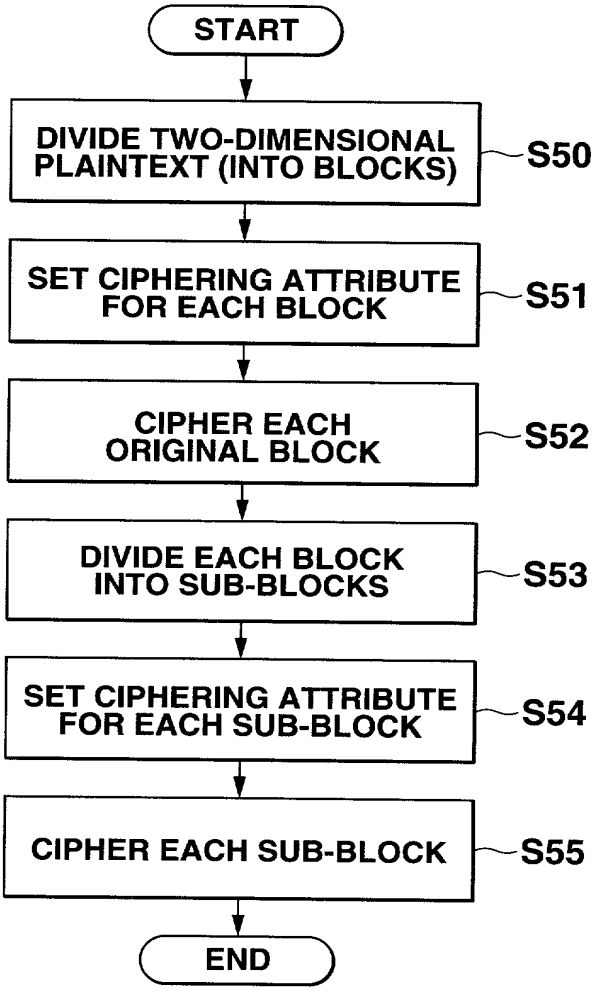
START
DIVIDE TWO-DIMENSIONAL PLAINTEXT (INTO BLOCKS)
S50
SET CIPHERING ATTRIBUTE FOR EACH BLOCK
S51
CIPHER EACH ORIGINAL BLOCK
S52
DIVIDE EACH BLOCK INTO SUB-BLOCKS
S53
SET CIPHERING ATTRIBUTE FOR EACH SUB-BLOCK
S54
CIPHER EACH SUB-BLOCK
S55
END

FIG.9

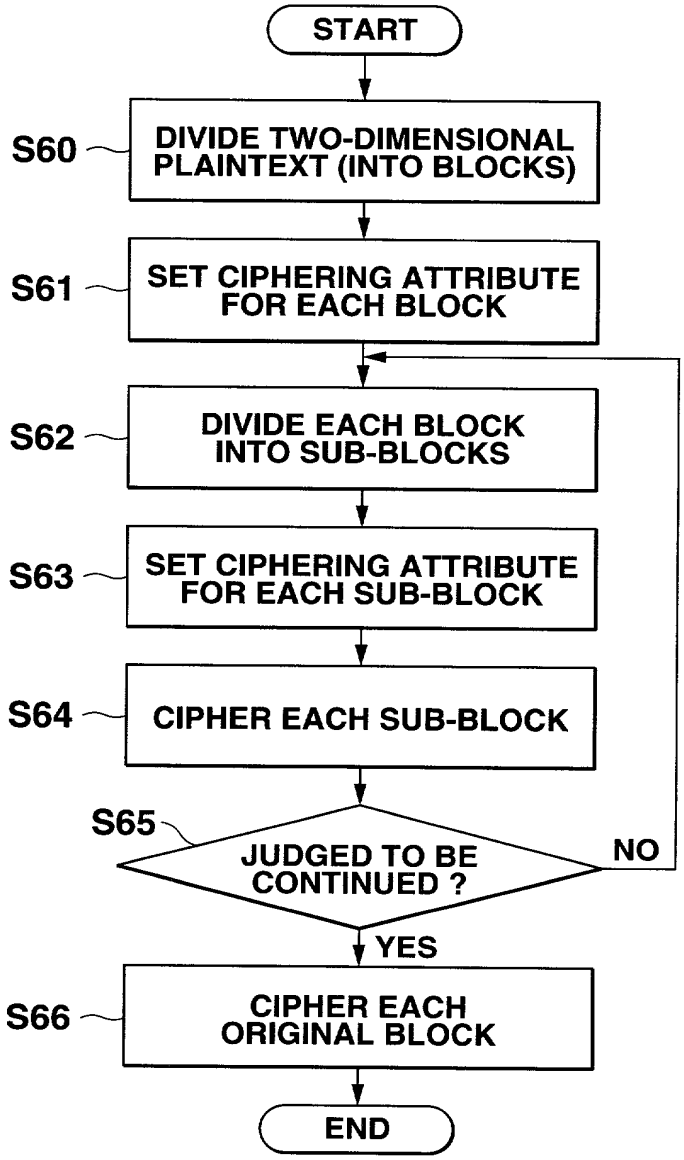
START
S60
DIVIDE TWO-DIMENSIONAL PLAINTEXT (INTO BLOCKS)
S61
SET CIPHERING ATTRIBUTE FOR EACH BLOCK
S62
DIVIDE EACH BLOCK INTO SUB-BLOCKS
S63
SET CIPHERING ATTRIBUTE FOR EACH SUB-BLOCK
S64
CIPHER EACH SUB-BLOCK
S65
JUDGED TO BE CONTINUED ?
NO
YES
S66
CIPHER EACH ORIGINAL BLOCK
END

FIG.10

FIG.11A

FIG.11B

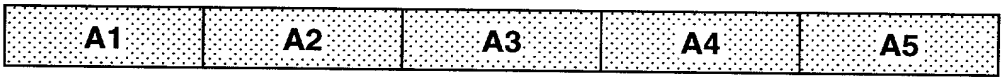

FIG.11C

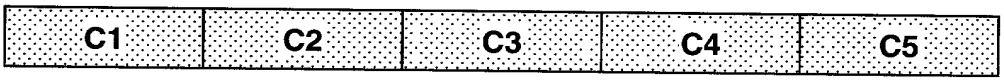

FIG.11D

FIG.11E

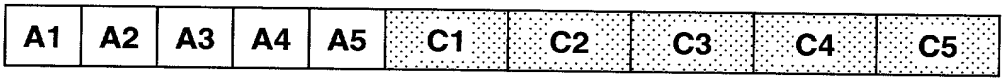

FIG.11F

RECORD1	BIT START POINT	CIPHERED BIT LENGTH	ACCESS PRIVILEGE	KEY LENGTH	CIPHERING KEY
RECORD2	BIT START POINT	CIPHERED BIT LENGTH	ACCESS PRIVILEGE	KEY LENGTH	CIPHERING KEY
RECORD3	BIT START POINT	CIPHERED BIT LENGTH	ACCESS PRIVILEGE	KEY LENGTH	CIPHERING KEY
RECORD4	BIT START POINT	CIPHERED BIT LENGTH	ACCESS PRIVILEGE	KEY LENGTH	CIPHERING KEY

...

FIG.12

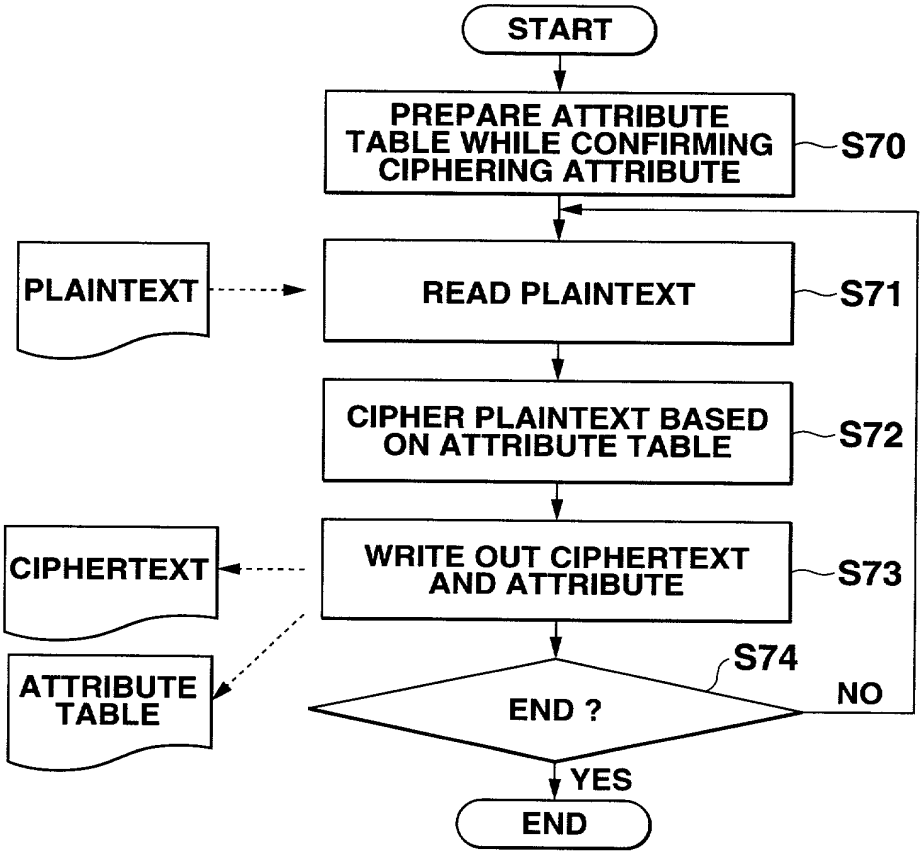
START
PREPARE ATTRIBUTE TABLE WHILE CONFIRMING CIPHERING ATTRIBUTE
S70
PLAINTEXT
READ PLAINTEXT
S71
CIPHER PLAINTEXT BASED ON ATTRIBUTE TABLE
S72
CIPHERTEXT
WRITE OUT CIPHERTEXT AND ATTRIBUTE
S73
ATTRIBUTE TABLE
S74
END ?
NO
YES
END

FIG.13

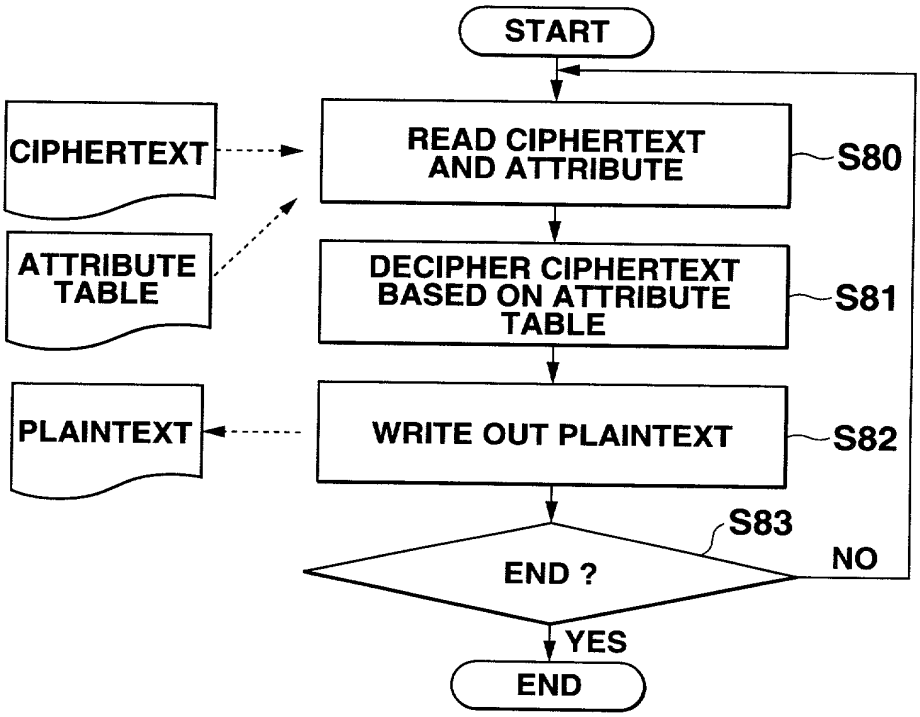
START
CIPHERTEXT
READ CIPHERTEXT AND ATTRIBUTE
S80
ATTRIBUTE TABLE
DECIPHER CIPHERTEXT BASED ON ATTRIBUTE TABLE
S81
PLAINTEXT
WRITE OUT PLAINTEXT
S82
S83
END ?
NO
YES
END

FIG.14

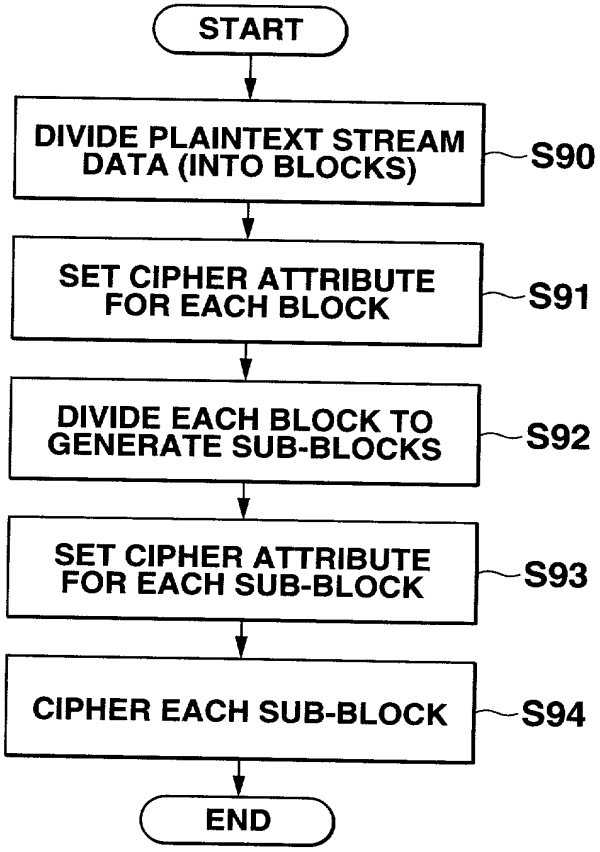
START
DIVIDE PLAINTEXT STREAM DATA (INTO BLOCKS)
S90
SET CIPHER ATTRIBUTE FOR EACH BLOCK
S91
DIVIDE EACH BLOCK TO GENERATE SUB-BLOCKS
S92
SET CIPHER ATTRIBUTE FOR EACH SUB-BLOCK
S93
CIPHER EACH SUB-BLOCK
S94
END

FIG.15

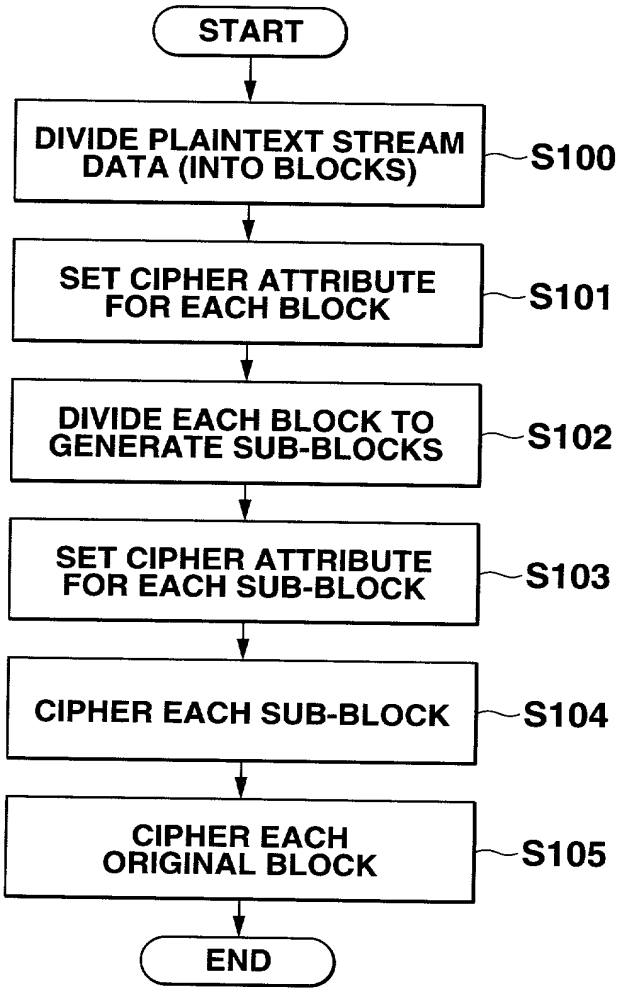
START
DIVIDE PLAINTEXT STREAM DATA (INTO BLOCKS)
S100
SET CIPHER ATTRIBUTE FOR EACH BLOCK
S101
DIVIDE EACH BLOCK TO GENERATE SUB-BLOCKS
S102
SET CIPHER ATTRIBUTE FOR EACH SUB-BLOCK
S103
CIPHER EACH SUB-BLOCK
S104
CIPHER EACH ORIGINAL BLOCK
S105
END

FIG.16

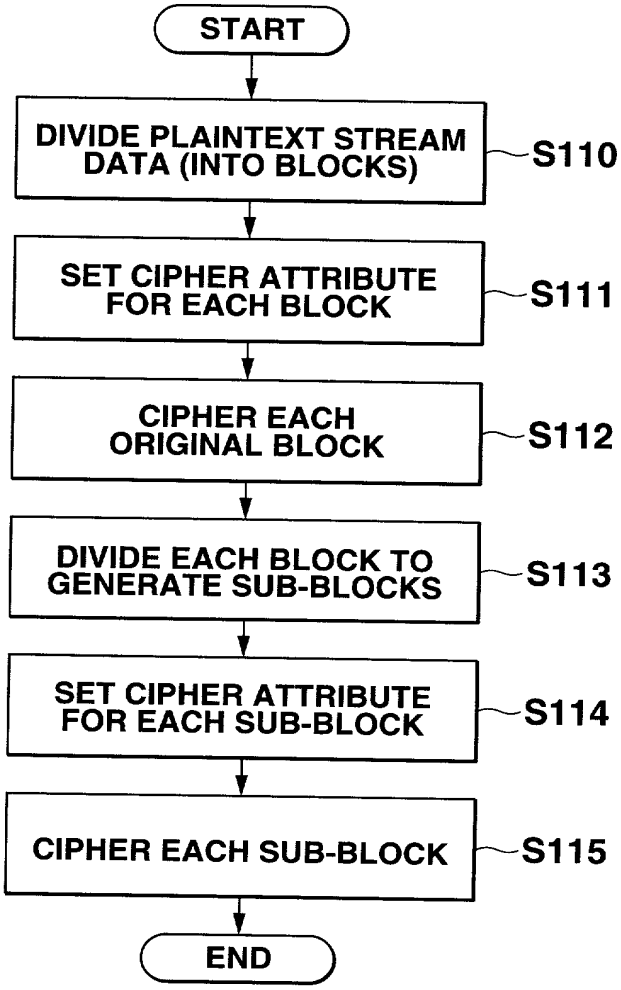
START
DIVIDE PLAINTEXT STREAM DATA (INTO BLOCKS)
S110
SET CIPHER ATTRIBUTE FOR EACH BLOCK
S111
CIPHER EACH ORIGINAL BLOCK
S112
DIVIDE EACH BLOCK TO GENERATE SUB-BLOCKS
S113
SET CIPHER ATTRIBUTE FOR EACH SUB-BLOCK
S114
CIPHER EACH SUB-BLOCK
S115
END

FIG.17

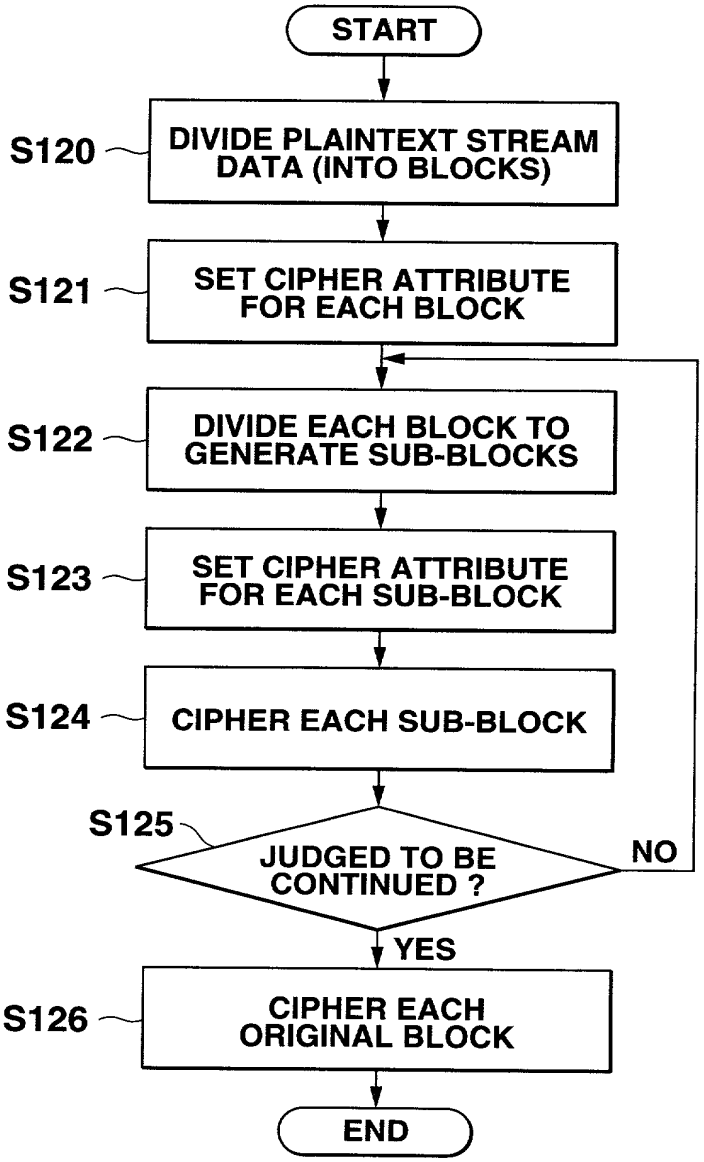
START
S120
DIVIDE PLAINTEXT STREAM DATA (INTO BLOCKS)
S121
SET CIPHER ATTRIBUTE FOR EACH BLOCK
S122
DIVIDE EACH BLOCK TO GENERATE SUB-BLOCKS
S123
SET CIPHER ATTRIBUTE FOR EACH SUB-BLOCK
S124
CIPHER EACH SUB-BLOCK
S125
JUDGED TO BE CONTINUED ?
NO
YES
S126
CIPHER EACH ORIGINAL BLOCK
END

FIG.18

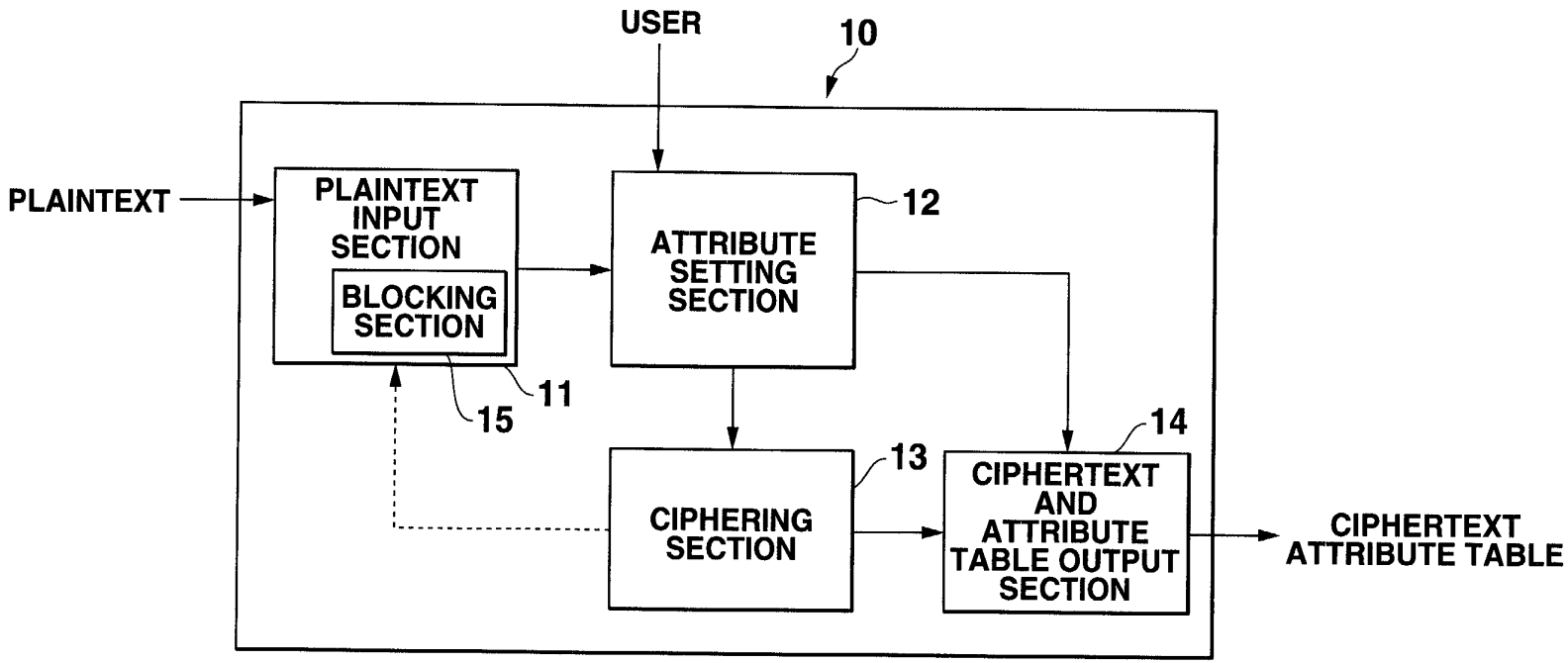
USER
10
PLAINTEXT
PLAINTEXT INPUT SECTION
BLOCKING SECTION
11
15
ATTRIBUTE SETTING SECTION
12
CIPHERING SECTION
13
CIPHERTEXT AND ATTRIBUTE TABLE OUTPUT SECTION
14
CIPHERTEXT ATTRIBUTE TABLE

FIG.19

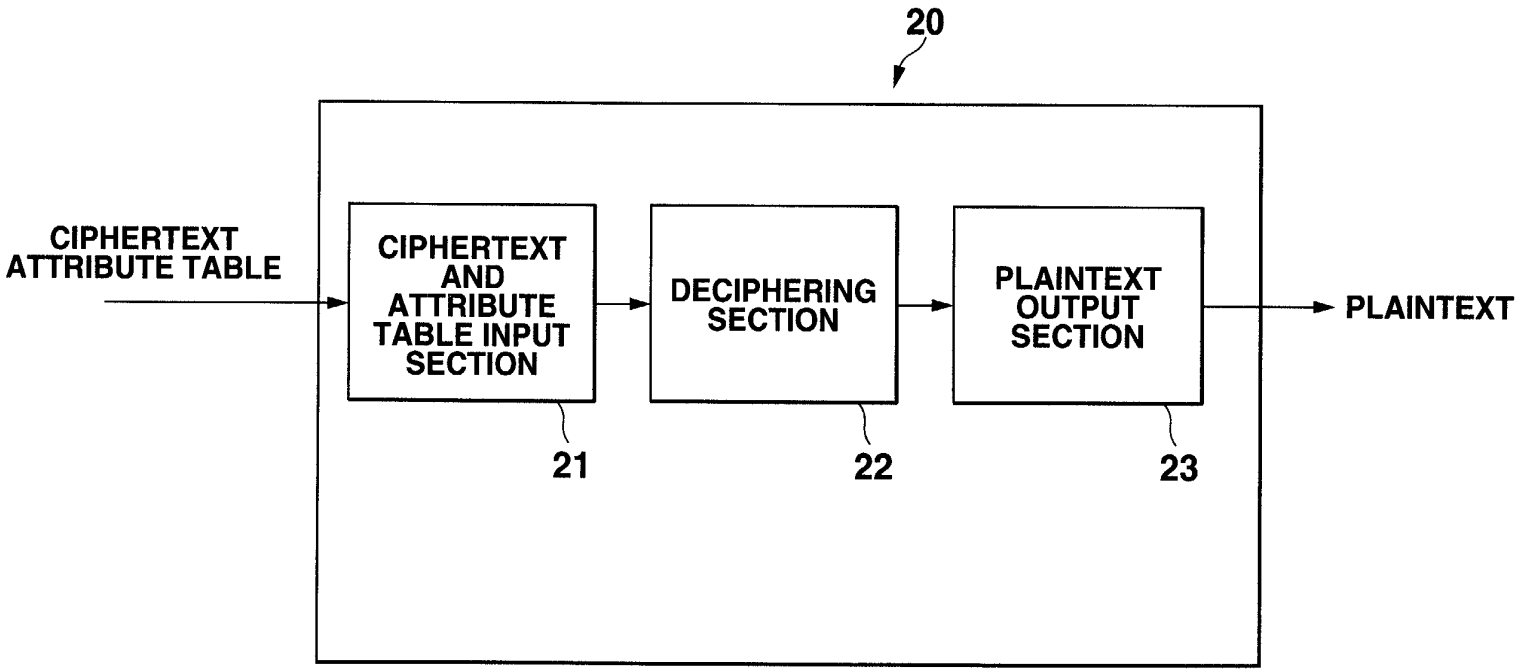
20
CIPHERTEXT ATTRIBUTE TABLE
CIPHERTEXT AND ATTRIBUTE TABLE INPUT SECTION
DECIPHERING SECTION
PLAINTEXT OUTPUT SECTION
PLAINTEXT
21
22
23

FIG.20

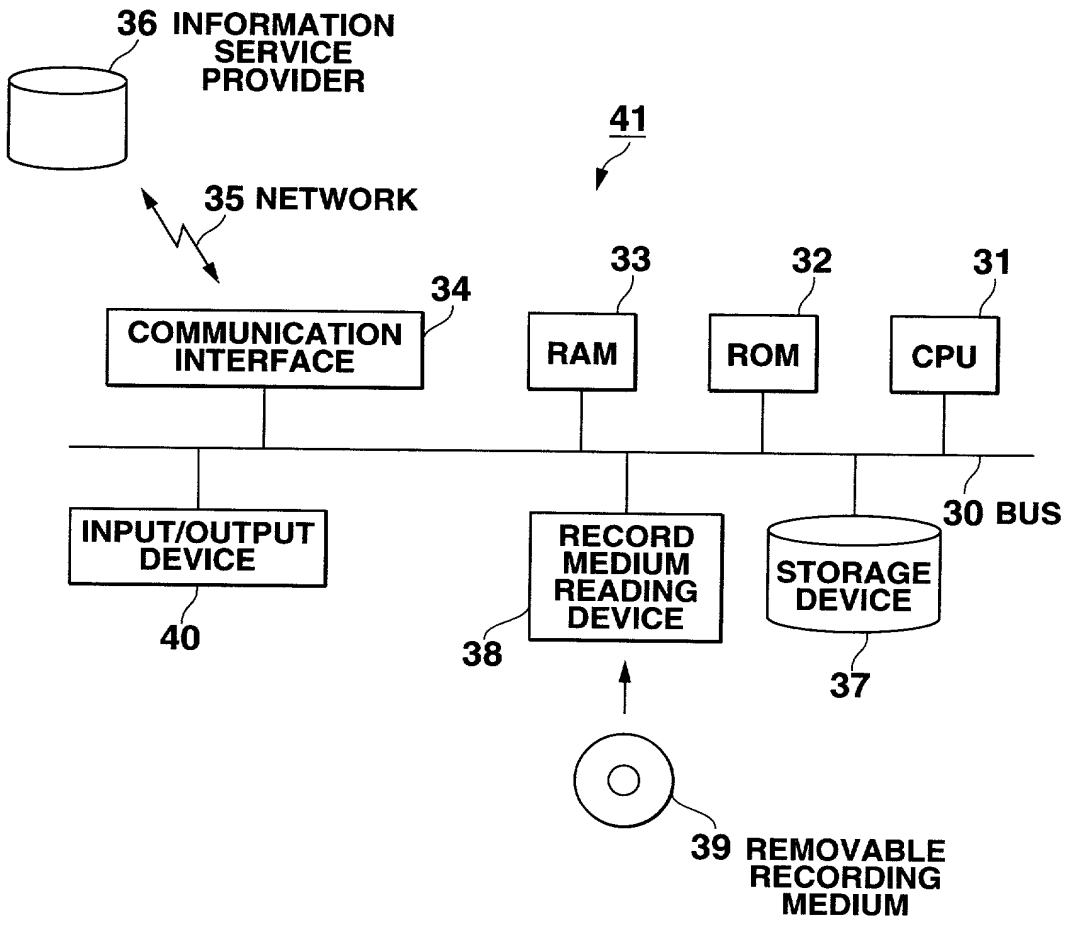
36 INFORMATION SERVICE PROVIDER
41
35 NETWORK
33
32
31
34
COMMUNICATION INTERFACE
RAM
ROM
CPU
30 BUS
INPUT/OUTPUT DEVICE
RECORD MEDIUM READING DEVICE
STORAGE DEVICE
40
38
37
39 REMOVABLE RECORDING MEDIUM

FIG.21